

CLAIMS

What is claimed is:

1. An optical disc drive comprising:
a deck having a protrusion on which a spindle motor that rotates an optical disc and an optical pickup sliding along a radial direction of the optical disc drive are mounted;
a lower case, that the deck slides into and out of, having a penetration corresponding to the protrusion; and
a cover that covers the penetration.
2. The optical disc drive of claim 1, wherein the cover covers the penetration so that a lower surface of the cover does not protrude to a lower surface of the lower case.
3. The optical disc drive of claim 2, wherein the cover is thinner than the lower case.
4. The optical disc drive of claim 1, wherein the penetration comprises a placing part that is prepared at the edge of the penetration and has a lower surface recessed by a thickness of the lower case from the lower surface of the lower case.
5. The optical disc drive of claim 4, wherein the cover is adhered onto the placing part.
6. The optical disc drive of claim 4, wherein the cover is fixed onto the placing part by spot welding.
7. The optical disc drive of claim 1, further comprising:
a flexible printed circuit that curves as the deck slides into and out of the lower case; and
dynamically connects electrical parts including the optical pickup installed on the deck to a main control board installed in the lower case, wherein a portion of the flexible printed circuit is fixed to the cover.

8. The optical disc drive of claim 7, wherein the flexible printed circuit is U-shaped, and comprises a first connecting part connected to the deck and a second connecting part, connected to the main control board, which is fixed to the cover.

9. The optical disc drive of claim 1, wherein the optical pickup serves to reproduce data from a CD-ROM and records data on and reproduces data from a CD-RW.

10. The optical disc drive of claim 1, wherein the optical disc drive serves to reproduce data from a CD-ROM, record data on and reproduce data from a CD-R, and reproduce data from a DVD.

11. An optical disc drive, comprising:
a lower case, having an upper and a lower surface, including a main control board controlling the operation of the slim optical disk drive, and a penetration;
a deck which slides in and out of the lower case occupying a volume of protruding space in which a spindle motor and an optical pickup are mounted; and
a cover covering the penetration, wherein the volume of protruding space fits within the penetration.

12. The optical disc drive according to claim 11, wherein the cover comprises a plate that is thinner than the lower case.

13. The optical disc drive according to claim 11, wherein the lower surface of the cover does not extend lower than a lower surface of the lower case.

14. The optical disc drive according to claim 11, further comprising a placing part, having an upper and a lower surface, along an edge of the penetration, transversely extending from the edge of the protrusion.

15. The optical disc drive according to claim 14, wherein the upper surface of the placing part is level with the upper surface of the lower case.

16. The optical disc drive according to claim 14, wherein the upper surface of the placing part is lower than the upper surface of the lower case.

17. The optical disc drive according to claim 14, wherein the lower surface of the placing part is lower than the upper surface of the lower case by a thickness of the cover.

18. The optical disc drive according to claim 14, wherein the lower surface of the placing part is formed higher than the lower case by the thickness of an adhesive when the cover is adhered onto the placing part.

19. The optical disc drive according to claim 14, wherein the cover is fixed onto the placing part by spot welding.

20. The optical disc drive according to claim 11, further comprising:
a flexible printed circuit made of a material that flexibly folds as the deck slides into and out of the lower case; and
dynamically connects electrical parts on the deck to the main control board, wherein a portion of the flexible printed circuit is fixed to the cover.

21. The optical disc drive according to claim 20, wherein the flexible printed circuit is U-shaped, and comprises:

a first connecting part, formed at an end of the flexible printed circuit, connected to the deck; and

a second connecting part, formed at the other end of the flexible printed circuit, connected to a connector on the main control board.

22. The optical disc drive according to claim 21, wherein the first connecting part comprises connections to the spindle motor, the driving motor, and the optical pickup.

23. The optical disc drive according to claim 21, wherein an adhesive fixes the flexible printed circuit to the cover at a portion of the flexible printed circuit comprising the portion away from the second connecting part and extending towards a U-shaped section.

24. The optical disc drive according to claim 11, wherein the optical pickup reproduces data from a CD-ROM and records data on and reproduces data from a CD-RW.

25. The optical disc drive according to claim 11, wherein the optical disc drive reproduces data from a CD-ROM, records data on and reproduces data from a CD-R, and reproduces data from a DVD.